R E P O R T R E S U M E S

ED 016 961 48 AL 000 933

PSYCHO-RHETORICAL STRUCTURES--I. THE PARAGRAPH.

BY- KOEN, FRANK
MICHIGAN UNIV., ANN ARBOR,CTR.FOR RES.LANG.AND BEH

REPORT NUMBER BR-6-1784 PUB DATE 1 SEP 67
CONTRACT OEC-3-6-061784-0508
EDRS PRICE MF-$0.25 HC-$0.48 10P.

DESCRIPTORS- #PSYCHOLOGICAL PATTERNS, RHETORIC, WRITTEN LANGUAGE, HYPOTHESIS TESTING, COMPOSITION (LITERARY), VERBAL STIMULI, ASSOCIATION (PSYCHOLOGICAL), PARAGRAPH COMPOSITION, BECKER'S THEORY OF PARAGRAPH STRUCTURE,

THIS PAPER DEALS WITH SOME PSYCHOLOGICAL ASPECTS OF RHETORICAL FORM AND STRUCTURE. THE SUGGESTION IS MADE THAT THE FIRST CONSIDERATION IS A DEFINITION OF THE ENTITY--THE EFFECTIVE STIMULUS--TO WHICH THE S (SUBJECT) RESPONDS. THIS MEANS A SPECIFICATION OF FUNCTIONAL CONTEXT, IN WHICH THE S VIEWS A GIVEN LANGUAGE PERFORMANCE. THE PSYCHOLOGICAL SIGNIFICANCE OF LANGUAGE STRUCTURES IN GENERAL IS BRIEFLY REVIEWED. IT IS ARGUED THAT THE PERCEPTION OF PARAGRAPH STRUCTURE PROVIDES THE RECEIVER OF A MESSAGE A SET OF SUBTLE DIMENSIONS ALONG WHICH TO DIRECT HIS EXPECTATIONS ABOUT INCOMING INFORMATION. THERE IS A BRIEF PRESENTATION OF BECKER'S THEORY OF PARAGRAPH STRUCTURE AND A REPORT OF AN EXPERIMENT WHICH WAS CONDUCTED TO TEST ITS VALIDITY. SS TEND TO AGREE ON THE PLACING OF PARAGRAPH MARKERS IN UNINDENTED PASSAGES OF EXPOSITORY PROSE, IN EITHER ENGLISH OR NONSENSE--AN INDEPENDENT THEORETICAL ANALYSIS OF THE PASSAGES SUCCESSFULLY PREDICTED WHERE PARAGRAPH MARKERS WERE PLACED. THE RESULTS ARE DISCUSSED IN TERMS OF BECKER'S THEORY AND THEIR IMPLICATIONS FOR THE TEACHING OF COMPOSITION. THIS PAPER WAS PRESENTED AT THE CONFERENCE ON COLLEGE COMPOSITION AND COMMUNICATION, LOUISVILLE, KENTUCKY, APRIL 6, 1967, AND ALSO APPEARS IN "STUDIES IN LANGUAGE AND LANGUAGE BEHAVIOR, PROGRESS REPORT V," SEPTEMBER 1, 1967. (AUTHOR/AMM)

BR 6-1784
PA 48

ED016961

Psycho-Rhetorical Structures: I. The Paragraph[1, 2]

Frank Koen

Center for Research on Language and Language Behavior
The University of Michigan

This paper deals with some psychological aspects of rhetorical form and structure. The suggestion is made that the first consideration is a definition of the entity--the effective stimulus--to which the S responds. This means a specification of functional context, in which the S views a given language performance. The psychological significance of language structures in general is briefly reviewed. It is argued that the perception of paragraph structure provides the receiver of a message a set of subtle dimensions along which to direct his expectations about incoming information. There is a brief presentation of Becker's theory of paragraph structure and a report of an experiment which was conducted to test its validity. Ss tend to agree on the placing of paragraph markers in unindented passages of expository prose, in either English or nonsense; an independent theoretical analysis of the passages successfully predicted where paragraph markers were placed. The results are discussed in terms of Becker's theory and their implications for the teaching of composition.

When students are assigned the task of writing a composition, they are told that the organization of their production is very important--that some events should bear certain relations to each other, and that these relations should have certain qualities. In short, the composition must have clearly identifiable "form." To a psychologist, this is an interesting idea because it gives rise to the question: Why? In what ways are the reactions of readers different toward a well-organized composition as compared to an undisciplined production? Perhaps the only significant difference is one of aesthetics--which, of course, is sufficient unto itself. However, there well may be other, functional, differences that can be identified. Perhaps a well-constructed composition is better recalled; perhaps it makes possible the creation in the mind of the reader of a more complex image or idea, thus affecting the quality of his reaction; perhaps it influences the speed and precision with which he responds to the whole composition; perhaps it gives specific direction to his thinking as he reflects on the ideas expressed. These are the kinds of questions that intrigue many psychologists.

One of the first steps that a psychologist would take in seeking to answer such questions is a determination of the nature and scope of the entity to

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

AL 000 933

which the reader is responding. When someone completes the reading of an essay and makes some evaluative judgment about it, is it possible to say in any precise and rigorous manner what he is reacting to? Is the only source of evidence the introspections of the reader? The psychologist would like to use more public data to answer his queries.

In writing, we commonly produce very complex ideas and concepts. However, the human mind can only hold and process a finite amount of information at a time. It seems reasonable to expect our compositional devices to contribute to the ordering of this seething array so that readers may connect relevant thoughts to each other. This ordering is the essence of composition. It is clear that we ordinarily recognize a sentence structure after just a few words, and we learn to anticipate what will be forthcoming. For example, when we see a noun phrase followed by a passive construction, this is a signal to file the information contained in the noun phrase for further processing because something later in the sentence is going to operate on it, and we know we do not yet have the "real" action agent of the sentence. It seems unrealistic to suppose that such anticipations stop abruptly at sentence boundaries.

Perhaps it is possible to demonstrate that readers form expectations of the relations between sentences or groups of sentences before the entire structure has been revealed--as they do in responding within sentences. In other words, there may be functional units of some kind expected, and the reader may intuitively look for them. If he does, it is the duty of the author to supply them. But first, of course, we must determine what they are. What then, are some specific characteristics of a sequence of sentences that makes it a unit and keeps it from resembling a collection of discrete items? Is it something called "the basic idea or theme" or are there more formal patterns to which people respond, and which we can manipulate deliberately to create tensions, accelerandos, diversions, focusings, and blurring while maintaining the feeling of an organic unit?

In this paper attention will be devoted largely to one particular kind of stimulus, the relations between its constituent parts, and the implications these relations have for human behavior. A brief account will be presented of how a beginning has been made (Koen, Becker, & Young, 1966) in the specification of a compositional unit in English, the paragraph, which does appear to have stimulus properties.

Ordinarily, of course, verbal stimuli occur in groups, and it is to these groups (phrases, sentences, paragraphs, essays, short stories) that we respond. My question is: What is it about these groups that serves a stimulus function? It is not the individual words themselves, strung one to another like a set of tinker toys. Rather, it is their pattern of relationships--their structure plus their relation to concurrent events in the real world. In sum, individual verbal events--be they words, phrases, sentences, or whatever--gain significance through their context, both verbal and non-verbal. But what is context for the language user at any given moment? Does context stop at the phrase boundary--at the end of the sentence--or does it extend to everything that is in the individual's consciousness?

When we read an essay, what is the functional stimulus for us? We are responding to some conceptual entity whose constituents are words and the ordered relationships between them. This entity does not consist merely of the words we are dealing with at the moment, but all the others that are affecting their meaning or comprehension, in short, their total context. It is the task of an author to attempt to define the total effective context of the reader so that just those ideas that will convey the intended meanings will be active in his mind.

Several years ago, two psychologists, Edward Howes and Charles Osgood, made a systematic, though limited, attempt to study the effect of context on the word associations given to a stimulus word. They read aloud to Ss a string like the following: toy, come, wretched, book. Ss were instructed to write down the first word that the final, accented word made them think of after they listened to the first three words. They found by giving strings like: skin, hour, utter, rough; hour, skin, utter, rough; hour, utter, skin, rough that the word skin clearly influenced the kinds of associations given to the stimulus word when it was placed next to it, but that this influence declined significantly when it was moved just two places away. This result would seem to indicate that the effective context for a given word is only a very few words on either side. Obviously, grammatical structures extend this sphere of influence. But how do they do it--and how much? How much and what kind of effect does the first paragraph of an essay have on the reaction to the third paragraph? Conversely,

what aspects of the third paragraph are intimated by the first? The point is simply that the structural relationships of our language, be they intonational, grammatical, or semantic in character, are mechanisms which result in the creation of new conceptual units whose boundaries blur and merge into each other, and which are more complex than, and different from, their constituents.

Psychology, then, is interested in different kinds of language units, because they imply different kinds of behavior, both in production and reception. First, let me briefly review what language structures in general do for us. The first contribution of language structures is that they extend our capacity for recall. It has been shown that we can recall about five or six unconnected words immediately after hearing or seeing them one time. Incidentally, it makes some difference what part of speech they are--adverbs are far more difficult to recall than nouns, as has been demonstrated by Sheldon Rosenberg. However, when words are put together in sentences, immediate recall is much better--something like 12-15 words. It is apparent that grammatical and semantic relations between words greatly facilitate recall. It seems to me that these facts have clear implications for research on the effect of context, an important ingredient in the stimulus which is eliciting a given response from the hearer or reader. What kinds of devices are available to the author to ensure that the reader will remember the appropriate things at the right time? In general, any feature that contributes to the reader's perception that two or more elements are part of the same unit will serve this function. As we have seen, recall of part of a unit tends to facilitate the recall of the remainder.

A second contribution which language structures make is that they enable us to say things which are otherwise "unsayable." For example, it is only by combining words in structured patterns that we can deal with relationships. And it is only by manipulating the relations between words that we can express or generate complex meanings.

The third contribution of language structure is that it creates expectancies. When we recognize the characteristics of a given kind of unit, we can anticipate the kinds of information that will be forthcoming. There is a great deal of psychological research that indicates when you can anticipate a given event, you are better prepared to deal with it. Much of human rational activity consists of seeking patterns--reliable recurrences that will enable us to predict the future. In our daily lives--and in the language we produce and receive--

we have fairly clear expectations of what will or should happen next. Indeed, if we do not, we become troubled and if the ambiguity about coming events is great enough, we will take rather drastic steps to reintroduce more predictability in our lives. When we perceive that a certain kind of language structure is beginning to unfold, we expect certain things to happen. Bear in mind, these are not passive expectancies, but active, searching questions directed along some dimensions while others are ignored. In the teaching of prose composition, then, it would be useful if we could specify more clearly the kinds of expectations that we arouse, for example, when we change the tense of verbs, or open a paragraph on a given level of abstractness.

The effect of these patterned relations is ideally to produce an entity to which human beings make some overall integrated, albeit complex, response. Each level of structure elicits its own kind of response: we expect different kinds of information from a noun phrase as compared with a dependent clause. The structure of a word involves the net of connotations it arouses; that of a sentence, the relations between its constituent phrases and clauses. It is reasonable to expect that paragraph structures play a similar role, expanding the compass of the unit to which we are to respond and directing our attention along certain lines. To the extent that the reader perceives these structures, they serve as sets of clues for selectively exploring the information being received. Extending our thinking even further, insofar as human beings concern themselves with matters which transcend the scope of the paragraph, there must be still larger units--though their nature is, for the moment, obscure. Bear in mind what was said earlier about our limited information processing capacity. We must postulate these structures or assert that the opening paragraphs of an essay are no part of the effective stimulus to the reader who has reached the end.

In seeking to validate these speculations, we must first demonstrate that units above the level of the sentence exist as conventional, rather than arbitrary phenomena and that they serve some functional purpose. Furthermore, if the structure of paragraphs, for example, does provide so-called dimensions of inquiry, it is reasonable to expect it to be made up of multiple attributes corresponding to the kinds or levels of expectancies which appear to be operative. First, our knowledge of the semantic connections between words leads us to expect

meaningfully related items to be used near each other. Secondly, regularities of grammatical relationships across sentences should alert readers to pattern recurrence; and third, the broad-scale meaningful units which are involved in answering content and strategy questions about the paragraph require explication. Once the signals associated with each of these levels have been adequately identified, it should be possible to teach students to use them systematically in their compositions.

It is fortunate that a beginning has been made in the development of a theory of paragraph structure which has the twin advantages of dealing directly with the problems mentioned above, and of inviting empirical confirmation in the laboratory. Alton Becker (1965, 1966) has suggested that the full explication of paragraphs must be carried out concurrently along several dimensions. Consequently, he has postulated three interlocking, simultaneously-operating "systems" in written material--lexical, grammatical, and rhetorical. Furthermore, he has explicitly rejected the sentence as a necessarily relevant or important unit in the paragraph.

The lexical system consists of overlapping "lexical equivalence chains," which may, and often do, extend over several sentences. A chain is usually a group of sentences, all of which make statements dealing with the same content domain. In doing so, "equivalence" is maintained by the use of synonymity, metaphor, paraphrasing, and relative and personal pronouns. For example, in the following pair of sentences: "John left the office early, complaining of a severe headache. However, I am sure he will feel better tomorrow." John and he are links in an equivalence chain. If now we add another sentence, such as: "Interestingly enough, several doctors have told me that psychosomatic ailments are very common this winter," the chain in which John and he were links has ended, and another, overlapping, one including I and me in the second and third sentences has begun.

The grammatical system consists of patterns of formal markers, such as the singularity or plurality of subjects and predicates, the tenses of verbs, and the presence and kind of modal auxiliaries. These elements, depending heavily on word endings as signaling devices, often extend beyond the single sentence. In the first two of the three sentences mentioned above, the subjects (John and I) are singular, while in the third, we have a plural subject (doctors), signifying the end of one element in the grammatical system and the beginning of another.

The rhetorical system consists of a sequence of functional slots, each of which may be filled by one or more sentences. Two patterns of slots that appear often in expository prose are those designated T(topic)--R(restriction)--I(illustration), and P(problem)--S(solution). In a sense, they are the formal elements, the result of whose interaction is the paragraph, in much the same way that relationships between subject, verb, and object specify the sentence. It is often possible to see a clear shift in the level of generality or of abstractness when one moves from one element to the next. Formal markers include cue words and phrases, such as for example, in other words, furthermore, however, then, but, and finally. The semantic markers of the lexical equivalence chains also often supply corroborative information indicating the beginning and end of rhetorical structures. In our three-sentence illustration, the word however suggests a rhetorical break between sentences one and two, and the change from particular to general statement which can be seen between sentences two and three indicates another.

Becker's theory seeks to specify the structural cues that native English speakers use to identify paragraphs. It implies that paragraphs are units, psychologically speaking, in the sense that we used the term earlier. If they are, the dimensions--or "systems" as they are called here--should each arouse a different kind of expectancy on the part of the reader. Furthermore, the recall of a given amount of material, all of which lies within a unit's boundaries, should be greater than for the same amount which lacks these unitary characteristics. Finally, it should be possible to briefly summarize the unit while maintaining a realization of the complexity of its content. The latter two conditions are accepted as among the goals of good composition; it is suggested that the first may well be causally related to both of them.

Basic to all these questions is that concerning the functional reality of the systems, and of the structural elements and their junctures. It was to this point that our experiment was directed. Theoretical analysis of four passages of English expository prose was performed, specifying the domains of all principal structural elements and the systems with which they were associated. Paragraph idention were removed and native English speakers (all college undergraduates) were asked to place paragraph markers at those sentence junctures where they seemed appropriate. If paragraphs are indeed conventional units, making use of commonly accepted signals, these students could be expected to

agree with each other in placing paragraph markers. They did so to an astonishing degree, thus indicating that they were responding to the same patterns.

For efficient teaching, it is important to be able to specify the nature of the cues that were being used by our students in their task. It is a common assumption that paragraphs represent purely semantic units, and thus reflect arbitrary decisions on the part of the author. This probably stems from the fact that all adults have, over time, created many thousands of paragraphs, giving rise to the belief that we knew how we did it. If, however, Becker is right, a good many of the signals which readers use to identify paragraphs are formal in nature and do not depend on an understanding of the meaning of the message at all. To test this idea, Becker and Young transformed the four English passages into nonsense by replacing all nouns, verbs, adverbs, and adjectives with nonsense words of equal syllabic length. They were careful to retain all word endings that play grammatical roles, however. With this operation, the sentence "Sloths have no right to be living on the earth today; they would be fitting inhabitants of Mars, where a year is over six hundred days long" becomes "Smars have no mirt to be lewling on the kust reteb; they would be tibbing nonentants of Ness, where a reet is over nus cantron tels dan." I think you will agree with me that the second sentence has exactly the same grammatical features as the first, but that it makes no sense at all. Students who had not seen the original English version of the passage performed this paragraphing task, and they showed a strong tendency to put their markers in exactly the same places as did those who had all the semantic cues at their disposal. It seems clear that, while we may indeed make decisions about indenting our own productions on what we consider private grounds, in doing so we use many formal public signals which are readily recognizable by others--signals which are internal to the structure of the paragraph and can operate independently of the device of indention.

The next question that arises is: are all three systems necessarily involved in the perception of paragraphs? You will recall that Becker's analysis of the four passages independently specified the domain of each element in the lexical, grammatical, and rhetorical systems. It was found that our students showed a clear tendency to place their paragraph markers at precisely those sentence junctures where there was the greatest concentration of structural breaks--places where one element ended and another began. Furthermore, they were much more

likely to paragraph if all three systems had breaks at the same point. Of the individual systems, the rhetorical was most influential, and the lexical least.

What do these results have to say about the teaching of composition? First, it seems clear that paragraphs can be identified largely on the basis of formal cues, and that we now know what some of those cues are. To construct tight, coherent paragraphs, it appears desirable that substitution of lexical equivalence chains not coincide with shifts in the tenses of verbs or the numbers of subjects and predicates, or with the insertion of transition words like furthermore or finally until the end of our designed unit. It is possible to use each of these classes of cues separately without giving rise to a fractionated effect, but their co-occurrence should be reserved for those places where we want our readers to perceive a paragraph juncture. Practice in the simultaneous control of these cues should be valuable. Second, we now have indications that Topic-Restriction-Illustration patterns are more important to paragraph unity than are lexical equivalence chains. This would suggest that exercises in producing such patterns in all their permutations should be profitable.

Third, the grammatical system, involving patterns of modes, tenses, and numbers, proved more important to paragraphing than the lexical system. This implies that practice in constructing grammatically-parallel sentences (which vary in semantic content) should contribute to more unified paragraphs. Indeed, it would appear that practice in using this device throughout a composition would result in a subtle coherence of the entire structure. Fourth, these results indicate that the lexical system was the least influential of the three systems in determining where students saw paragraph boundaries. It appears then, that authors can exercise more freedom than has been thought desirable in manipulating the locations of lexical items or their equivalents--so long as they maintain the integrity of Topic, Restriction, or Illustration unit within the paragraph. Practice in performing this operation should result in more structurally interesting compositions without loss of unity.

Fifth and last, I would like to extrapolate far beyond our data, and suggest that a useful structure for a coherent essay may well be some variant of the same Topic-Restriction-Illustration pattern, but with paragraphs or groups of paragraphs playing the roles we assigned to sentences in our study.

References

Becker, A. L. A tagmemic approach to paragraph analysis. *College Composition and Communication*, 1965, *16*, 237-242.

Becker, A. L. Symposium on paragraphs. *College Composition and Communication*, 1966, *17*, 67-72.

Koen, F., Becker, A. L., & Young, R. The psychological reality of the paragraph. *Studies in language and language behavior, IV*, February 1, 1967, Center for Research on Language and Language Behavior, University of Michigan, Contract No. OEC-3-6-061784-0508, U. S. Office of Education.

Footnotes

[1]Paper presented at the Conference on College Composition and Communication, Louisville, Ky., April 6, 1967.

[2]The research reported herein was performed pursuant to Contract OEC-3-6-061784-0508 with the U. S. Department of Health, Education, & Welfare, Office of Education, under the provisions of P. L. 83-531, Cooperative Research, and the provisions of Title VI, P. L. 85-864, as amended. This research report is one of several which have been submitted to the Office of Education as *Studies in language and language behavior*, Progress Report V, September 1, 1967.